This device is designed for use as general purpose amplifiers and switches requiring collector currents to 300mA. Sourced from Process 10. See PN 100A for characteristics.

Absolute Maximum Ratings* TA=25℃ unless otherwise noted

Symbol	Parameter	Value	Units
V_{CEO}	Collector-Emitter Voltage	45	V
V_{CES}	Collector-Base Voltage	50	V
V_{EBO}	Emitter-Base Voltage	6.0	V
I_C	Collector Current-Continuous	500	mA
TJ, Tstg	Operating and Storage Junction Temperature Range	-55 to +150	°C

*These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

NOTES:

1) These ratings are based on a maximum junction temperature of 150 degrees C.
2) These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.

Thermal Characteristics T_A=25℃ unless otherwise noted

Symbol	Characteristic	Max BC547/A/B/C	Units
P_D	Total Device Dissipation Derate above 25°C	625 5.0	mW mW/°C
$R_{\theta JC}$	Thermal Resistance, Junction to Case	83.3	°C/W
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	200	°C/W

Electrical Characteristics TA=25℃ unless otherwise noted

Symbol	Parameter	Test Conditions	Min	Max	Units
OFF CHARACTERISTICS					
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	Ic=1.0mA, I_B=0	45		V
$V_{(BR)CES}$	Collector-Base Breakdown Voltage	Ic=10μA, I_E=0	50		V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	I_E=10μA, I_C=0	50		V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	I_E=10μA, I_C=0	6.0		V
I_{CBO}	Collector Cutoff Current	V_{CB}=30V, I_E=0 V_{CB}=30V, I_E=0, T_A=+150°C		15 5.0	nA μA
ON CHARACTERISTICS					
h_{FE}	DC Current Gain	V_{CE}=5.0V, Ic=2.0mA 547 547A 547B 547C	110 110 200 420	800 220 450 800	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	Ic=10mA, I_B=0.5mA Ic=100mA, I_B=0.5mA		0.25 0.60	V V
$V_{BE(on)}$	Base-Emitter On Voltage	V_{CE}=5.0V, Ic=2.0mA V_{CE}=5.0V, Ic=10mA	0.58	0.70 0.77	V V
SMALL SIGNAL CHARACTERISTICS					
hfe	Small-signal Current Gain	Ic=2.0mA, V_{CE} =5.0V, F=1.0kHz	125	900	
NF	Noise Figure	V_{CE}=5.0V,Ic=200μA, R_S=2.0k Ω, f =1.0kHz, B_W=200Hz		10	dB